# HAZARD COMMUNICATION (HAZCOM) TRAINING

# CHEMICALS

- 650,000 chemical products available today
  - Potential for adverse effects
- Concern
  - Proper usage
  - Storage
  - Handling
  - First-aid procedures

# HAZARDOUS CHEMICAL

- Any chemical that is a physical or health hazard
- Environmental Protection Agency (EPA) designates which chemicals are hazardous
  - Toxic
  - Corrosive
  - Can react or explode when mixed with other substances
  - Flammable
  - Radioactive
  - Carcinogenic

# CHEMICAL EXPOSURE

- May cause or contribute to:
  - Organ damage
  - Respiratory disease
  - Cancer
  - Burns
  - Sterility
  - Dermatitis

# HAZARD COMMUNICATION STANDARD (HCS)

- Known as the “Employee Right to Know law”
  - Purpose: to inform employees about--
    - The chemicals they are exposed to in the workplace
    - How to protect themselves from chemical hazards
- Also ensures:
  - All chemical hazards are evaluated
  - Information is communicated to employees
- Developed by the Occupational Safety and Health Administration (OSHA)
  - 29 CFR 1910.1200

# EMPLOYER

- Must discuss major elements of HCS to employees
- Should provide a copy to each employee
- Should have each employee sign for receipt of Standard

# EXEMPTIONS TO HCS

- Hazardous waste (is regulated by EPA)
- Food, food additives, drugs, cosmetics, medical devices, & alcoholic beverages
- Consumer products
  - If amount used is less than that used by ordinary consumer

# EMPLOYER REQUIREMENTS

- Develop/implement a written Hazard Communication Plan (HCP)
- Develop a list/inventory of hazardous chemicals
- Ensure each container of hazardous chemical or dental material is labeled
- Maintain copies of Material Safety Data Sheets (MSDSs)
  - Must be readily accessible
- Provide training to employees

# HCP

- Provides for implementation of the HCS requirements
- Serves as reference for employer and employee questions about clinic policies
- Should be “personalized” to reflect each individual clinic

# HCP

- Each dental clinic must develop, implement, and maintain a written HCP
  - Describes how requirements for container labeling, MSDSs, and employee information and training will be met
  - Contains list of hazardous chemicals in workplace
  - Describes who is responsible for program

# HCP

- Should address the following issues:
  - An inventory list of hazardous chemicals
  - Container labeling
  - MSDSs
  - Employee training
  - Nonroutine tasks
  - Exposure of other personnel (ie, outside contractors)

# INVENTORY OF CHEMICALS

- Each clinic must inventory their supply of hazardous chemicals and dental materials
  - Should be organized in one of the following ways:
    - Alphabetically
    - Numerically
    - By hazard category (eg, corrosive, flammable, reactive, toxic)
- Update accordingly
- Exception
  - Consumer product used for its marketed purpose (eg, Windex)

# CONTAINER LABELING

- Each container of hazardous chemicals must be labeled
- Manufacturer must provide the following:
  - Identity of hazardous material
  - Appropriate hazard warning(s) to include the target organ(s)
  - Name and address of manufacturer

# SECONDARY CONTAINER

- Holds chemical removed from original container
- Must have a label giving:
  - Identity of the hazardous chemical
  - Appropriate hazard warning(s) to include target organ(s)
- A label is not required for portable container used to transfer hazardous chemicals for immediate use

# MSDSs

- Document that contains information concerning a hazardous chemical
- Developed by manufacturer
  - Must be provided to the buyer
- Must have one for each hazardous chemical
- Should be readily accessible
- Keep in a notebook or file

# MSDS INFORMATION

- Chemical and common name
- Physical and chemical characteristics
- Fire, explosion, and reactivity data
- Health hazards
- Permissible exposure limits
- Whether the substance is listed as a carcinogen

# MSDS INFORMATION

- Control measures required, including fire and personal protective equipment (PPE)
- General precautions for safe handling
- Emergency and first-aid procedures
- Name, address, and phone number of manufacturer to call in an emergency

# EMPLOYEE & MSDSs

- Must be trained on each MSDS applicable to their job
- Know how to find a particular MSDS
- Know how to read an MSDS
- Important section is Health Hazard Data
  - Harmful effects of the chemical
  - First-aid procedures if exposure occurs
  - Whether it is considered a carcinogen

# MSDSs NOT REQUIRED

- Manufacturer may send letter stating no MSDS is required for product
  - Product contains no hazardous materials
- Keep letter in MSDS notebook

# TIME REQUIREMENTS

- MSDSs should never be discarded
- If chemical/product is no longer used:
  - Move MSDS to an inactive section in notebook or file

# EMPLOYEE TRAINING

- Each employee must receive training:
  - Before starting to work
  - Whenever a new hazard is introduced to the workplace
- Recommended once per year
  - Keeps employees familiar with program

# TRAINING TOPICS

- Copy of HCS and explanation of contents
- Location and availability of written HCP
- Chemicals present in the workplace
- Explanation of MSDSs
- Location of MSDS file and hazardous inventory list
- Physical/health effects of hazardous chemicals listed on master inventory

# TRAINING TOPICS

- Observation methods/techniques to determine presence of hazardous chemicals
- How to reduce/prevent exposure through proper work practices and PPE use
- Steps taken by the clinic to minimize/prevent exposure
- Emergency procedures to follow if exposed to chemicals on inventory list
- Explanation of labeling system

# TRAINING TOPICS
## Chemicals

- Review the master inventory list

# TRAINING TOPICS

## MSDS File/Hazardous Inventory List

- Inform employees of location
- Must be available to employees at all times

# TRAINING TOPICS
## Physical/Health Effects

- Can be found in Health Hazard Data section of MSDS
- Inform employees of each chemical and its health effects
  - Accomplish for each chemical or group of chemicals

# TRAINING TOPICS
## Observation Methods/Techniques

- Employee must be trained to detect the presence or release of hazardous chemicals in workplace
  - Visually
  - By odor
  - Using continuous monitoring device
    - Not routinely used in dentistry
- If detected, report it to Safety and Health Manager

# TRAINING TOPICS
## Reduce or Prevent Exposure

- Work practices
  - Pre-capsulated amalgam capsules, scrap amalgam storage, nitrous oxide scavenger mask, lead barrier for radiographs, protective eyewear, gloves, mask, using a hood or suction while grinding
- Review specific procedures for your clinic

# TRAINING TOPICS
## Exposure Protocol

- Determine the hazard from the container label
- Apply first-aid or emergency procedures indicated on MSDS
- For serious injury, obtain medical evaluation
- Pursue medical re-evaluation if necessary
- Complete OSHA form 200 and OSHA 101 (if 11 or more employees)

# TRAINING TOPICS
## Exposure Protocol - Chemical Spill

- Determine hazard from label
- Wear appropriate PPE
- Contain/remove chemicals with chemical spill kit
- Place contaminated materials in appropriate container
- Label container
- Notify waste collector
- If very hazardous, contact manufacturer
- Document

# TRAINING TOPICS
## Exposure Protocol - Mercury Spill

- Open mercury spill kit
- Wear appropriate PPE
- Collect spilled mercury in dust pan using scraper
- Place in amalgam waste container
- Use mercury sponge(s) to clean-up residual mercury
- Place contaminated sponge(s) in disposal bag

# NONROUTINE TASKS

- Def'n: hazardous tasks that a worker does not normally perform
- Inform employees of the hazards of nonroutine tasks and the hazards associated with chemicals
- Most dental clinics have no nonroutine tasks

# EXPOSURE OF OTHER PERSONNEL (Outside contractors)

- Other personnel must be notified of hazardous chemicals to which they may be exposed
- Describe:
  - Hazardous chemicals in the dental office
  - Measures to reduce possibility of exposure
  - Location of MSDSs
  - Procedure to follow if exposed

# EMPLOYER SUMMARY

- Inform employees HCP is available upon request
- Who to contact if desired
- Emphasize to employees the location of the HCP

# EMPLOYEE SUMMARY

- Review Hazard Communication Standard
- Review operations in workplace where hazardous chemicals are present
- Know location of HCS, HCP, MSDS file

# DOCUMENTATION

- Summary of training information
- List of employees
- Keep for a minimum of three years

# FINAL CONSIDERATION

- Personal Monitoring
  - Follow local policy in conjunction with base Bioenvironmental Engineering or Radiation Safety
  - Potential hazards that may require monitoring include:
    - Radiation
    - Nitrous oxide
    - Formaldehyde (chemiclave)

# REFERENCE


- US Dept of Labor, Occupational Safety and Health Administration. 29 CFR 1910.1200, Hazard Communication. Final Rule. Federal Register 59(27):6126-6184, February 9, 1994.